

## ABSTRACT

A spray data acquisition system includes a pumping device responsive to an applied force to generate an aerosol spray plume along a spray axis. The system further includes a spray pump actuator that is capable of controlling the pumping force and the duration of the aerosol spray plume produced by the pumping device. The system also includes an illumination device that illuminates the aerosol spray plume along at least one first geometric plane that intersects the aerosol spray plume. The system further includes an imaging device that acquires data representative of an interaction between the illumination and the aerosol spray plume along at least one geometric plane.